## REMARKS

Claims 6 to 10 are now pending in the above-referenced application. Claim 6 has been amended. In view of the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration of the present application is respectfully requested.

Claim 6 stands rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 5,063,857 to Kissel, Jr. ("Kissel, Jr.").

Claim 6 refers to a method for a motor vehicle having an adaptive distance and speed control for lane allocation of vehicles on multi-lane roads, and recites "carrying out the lane allocation in a model-based manner via a frequency distribution of lateral displacements of detected radar objects."

The Final Office Action, section 7.1 refers to column 25, lines 25 to 56 as allegedly disclosing the features recited in claim 6. However, as set forth in Applicants' Response, filed December 19, 2005, the referenced section discusses two ways of determining a position of another vehicle. One way is via a signal of a device in a guideway, unrelated to detected radar objects. Vehicles travel single file along the guideway. The guideway does not include multiple lanes, and allocation of a vehicle to a lane is not carried out. Only a position of a vehicle is determined for ensuring that a lengthwise distance is maintained between vehicles. The other way of determining a vehicle position in the referenced section of Kissel, Jr. is based on a radio frequency signal received from another vehicle that "carries information pertaining to the present position and speed of the vehicle." Thus, according to this second way, a vehicle determines another vehicle's position apparently by deciphering contents of a received signal which provides the information. Nowhere does Kissel, Jr. disclose, or even suggest, performing a frequency distribution of lateral displacements of one or more of the received signals.

Further, a lane allocation for a multi-lane road is not conducted. Thus, nowhere does Kissel, Jr. disclose or suggest "carrying out the lane allocation" or performing "a frequency distribution of lateral displacements of detected radar objects."

In the Response to Arguments section of the Final Office Action, sections 6.1-6.2, the Examiner asserts that these features are disclosed by Kissel, Jr. in the Abstract and at column 25, line 6, to column 26, line 64, and column 7, line 40 to column 12, line 2. With respect to the arguments presented above and in Applicants' Response, filed December 19,

2005, these sections add nothing to indicate anything contrary to that which Applicants argue. In particular, with respect to the Examiner's argument at section 6.2 of the Final Office Action that Kissel, Jr. discloses a transfer of vehicles from one lane to another, this misstates the disclosure of Kissel, Jr. While, Kissel, Jr. may refer to a merging by a vehicle from one guideway to another, Kissel, Jr. does not pertain to a multi-lane road and does not disclose, or even suggest, a lane allocation in a model-based manner as recited in claim 6. Instead, Kissel, Jr. provides that for a merge of a vehicle from one guideway to another separate guideway, a lengthwise distance between the merging vehicle and another vehicle that is on the guideway to which the merging vehicle is to merge is determined, and, if the distance is too short, the merging vehicle first loops before merging to lengthen the distance between the merging vehicle and the vehicle already on the guideway to which it will merge.

Since Kissel, Jr. does not disclose, or even suggest, all of the features recited in claim 6, it is therefore respectfully submitted that Kissel, Jr. does not anticipate claim 6. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 9 stands rejected under 35 U.S.C. 102(a) as being unpatentable over U.S. Patent No. 6,026,353 to Winner ("Winner").

Claim 9 refers to a method for detecting a misalignment of a sensor on the basis of reflection, and recites "detecting a horizontal misalignment from a position of average values for lanes in a histogram with respect to a vehicle axis."

As set forth in Applicants' Response, filed December 19, 2005, while Winner may discuss determining a misalignment of a clearance sensor based on pitch angles that are correlated with data generated by the clearance sensor, nowhere does Winner disclose, or even suggest, determining a misalignment from *a position of average values for lanes in a histogram* with respect to a vehicle axis.

In the Response to Arguments section of the Final Office Action, section 6.3, the Examiner again responds by pointing to additional sections of the relied upon reference, including the background section, and again the additional sections add nothing to indicate anything contrary to that which Applicants argue. As explained below, Winner's method is directed only to a vertical misalignment; not to a horizontal misalignment. With respect to the vertical misalignment, Winner describes determining the misalignment based on pitch angles correlated with data generated by the sensor; Winner does not disclose determining the vertical misalignment from a position of average values for lanes in a histogram. Although,

Winner's method relates only to vertical misalignment, Winner discusses horizontal alignment in the background section of the patent application to contrast horizontal misalignment from vertical misalignment. With respect to the discussion in the background section regarding horizontal misalignment, too, Winner does not describe determining the misalignment from a position of average values for lanes in a histogram. Rather, with respect to the horizontal misalignment discussed in the background section, Winner states that a conventional method is to check for misalignment "with reference to a known reference target and utilizing the sensor's own directional analysis system," and that one conventional method is "based on a stationary measurement of the overall radiation characteristic of the clearance sensor in which a target reference . . . is positioned at a desired [position] opposite the clearance sensor . . . [such that the horizontal misalignment] can be recognized . . . by the erroneous angle of the targets." Neither one of these methods described in the background section refers to determining a misalignment from *a position of average values for lanes in a histogram* with respect to a vehicle axis.

Further, as mentioned above, the method of Winner does not refer to detecting a horizontal misalignment, other than in the background section. With respect to any section of Winner, on which the Examiner relies as disclosing the features recited in claim 9, that describes the method of Winner, *i.e.*, any section of Winner other than the background section, the section does not disclose detecting a horizontal misalignment. In this regard, the Office Action refers to column 1, lines 10 to 13 (and expands this to lines 8 to 16 in the Response to Argument section of the Final Office Action, section 6.3) and column 2, lines 4 to 6 as allegedly indicating otherwise. However, the former referenced section merely defines the term "misalignment," and does not indicate that the method of Winner refers to detecting a horizontal misalignment. Applicants do not dispute that the term "misalignment" taken alone in Winner means "any misadjustment or misalignment . . . which causes a failure in the transmission or reception of the measuring radiation emitted or received by the clearance sensor." However, Winner indicates that its method is directed specifically to detection of a *vertical* misalignment, and not to a misalignment generally. *See* Winner, column 2, lines 13 to 15. The term "misalignment" as modified by the term "vertical" in Winner does not include a horizontal misalignment, but rather refers specifically to a vertical misalignment. The background section of Winner refers to both horizontal and vertical misalignment, but the Abstract, summary of the invention, and detailed description sections of Winner refer specifically to a vertical misalignment, and not to a horizontal misalignment.

For example, the Examiner, at section 6.3 of the Final Office Action points Applicants to the title of Winner. Applicants, in turn, point the Examiner to the same. The title reads "Method and Apparatus for Recognizing a ***Vertical*** Misalignment of a Clearance Sensor." Similarly, after indicating in the background section that some horizontal misalignment detections do not work well for detecting a vertical misalignment, the summary section begins by stating that "[t]he present invention provides a method and apparatus with which a ***vertical*** misalignment of a clearance sensor can be easily and reliably recognized." While Winner, in the summary and detailed description uses the term "any misalignment," Winner has made clear that the context of such disclosure is with respect to any ***vertical*** misalignment.

With respect to the latter referenced section, *i.e.*, column 2, lines 4 to 6 of the background section, as explained above, while the background section may refer to detection of horizontal misalignment by, the discussion is to contrast it with vertical misalignment, which is the subject of the method of Winner. Thus, the method discussed in the abstract, to which the Examiner refers as allegedly disclosing "detecting a horizontal misalignment from a position of average values for lanes in a histogram with respect to a vehicle axis," is a method for detection of a *vertical* misalignment. Indeed, to the extent the Examiner refers to any section other than the background section as disclosing detection of misalignment from a position of average values for lanes in a histogram with respect to a vehicle axis, it is respectfully submitted that Winner refers specifically to vertical misalignment.

In any case, as explained above, the sections of Winner other than the background section provides for determining a misalignment based on pitch angles. (The methods described in the background section are discussed above and also do not disclose, or even suggest, the features of claim 9). Accordingly, even assuming for argument's sake that Winner applies equally to detection of vertical and horizontal misalignment, Winner does not disclose, or even suggest, the features recited in claim 9.

Accordingly, nowhere does Winner disclose, or even suggest, performing "detecting a horizontal misalignment from a position of average values for lanes in a histogram with respect to a vehicle axis."

Since Winner does not disclose, or even suggest, all of the features recited in claim 9, it is therefore respectfully submitted that Winner does not anticipate claim 9. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kissel, Jr. in view of United States Patent No. 5,555,555 to Sato et al. ("Sato et al.")

Claim 7 recites "means for carrying out a lane allocation in a model-based manner via a frequency distribution of lateral displacements of detected radar objects." As set forth above in support of the patentability of claim 6, Kissel, Jr. does not disclose or suggest these features. Since Sato et al. do not overcome the deficiencies Kissel, Jr., it is respectfully submitted that the combination of Kissel, Jr. and Sato et al. does not render unpatentable claim 7 or its dependent claim, *i.e.*, claim 8. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sato et al. in view of Winner.

Claim 10 recites "means for storing, with equivalent object treatment, a first histogram for a lateral displacement of a detected object and a second histogram for a distance of a detected object; and means for determining a misalignment angle of a sensor by determining a centroid of the first and second histograms."

The Office Action refers to column 16, line 58 to column 17, line 18 of Sato et al. as allegedly disclosing means for storing a histogram for a lateral displacement of a detected object. As set forth in Applicants' Response, filed December 19, 2005, the referenced section does not refer to a histogram for a lateral displacement of a detected object. Indeed, nowhere do Sato et al. disclose, or even suggest, a histogram for a lateral displacement of a detected object, or a means for its storage.

The Office Action refers to column 18, line 52 to column 19, line 7 of Sato et al. as allegedly disclosing means for storing a histogram for a distance of a detected object. As set forth in Applicants' Response, filed December 19, 2005, the referenced section does not refer to a histogram for a distance of a detected object. Indeed, nowhere do Sato et al. disclose, or even suggest, a histogram for a distance of a detected object, or a means for its storage.

In the Response to Arguments section of the Final Office Action, section 6.5, the Examiner again expands the section on which the Examiner relies as allegedly disclosing these features, and again, the additional sections add nothing that indicates anything contrary to that which Applicants argue. The cited section of Sato et al. refers to performing numerous Hough transformations and performing calculations with the transformations. The

cited section does not refer to histograms, and, in particular, does not refer to two different histograms, one being a histogram for a lateral displacement of a detected object and one being a histogram for a distance of a detected object.

Further, the Examiner admits that Sato et al. do not disclose "means for determining a misalignment angle of a sensor by determining a centroid of [a] first [histogram for a lateral displacement of a detected object] and [a] second [histogram for a distance of a detected object]." Instead, the Examiner refers to Winner as allegedly disclosing these features. Winner refers to detecting a sensor misalignment based on a *vehicle's pitch angle* and distances between the sensor and a detected object. Neither Sato et al. nor Winner, nor their combination, discloses or suggests determining a misalignment angle by determining a centroid of histograms for a *lateral displacement* and a distance of a detected object. In the Response to Arguments section of the Final Office Action, section 6.5, the Examiner asserts that "Winner refers to any misalignment of either a part or the entire clearance sensor." Even assuming for argument's sake that the Examiner is correct (which the Examiner is not as explained above in support of the patentability of claim 9), the Examiner's argument does not address Applicants' argument. The Examiner has not indicated where Winner discloses or suggests "means for determining a misalignment angle of a sensor by determining a centroid of . . . ***first and second histograms***," and, in particular, by determining a centroid of a first histogram for a lateral displacement of a detected object and a second histogram for a distance of a detected object.

Since the combination of Sato et al. and Winner does not disclose or suggest all of the feature recited in claim 10, it is therefore respectfully submitted that the combination of Sato et al. and Winner does not render unpatentable claim 10. Accordingly, withdrawal of this rejection is respectfully requested.

It is respectfully submitted that the subject matter of the present application is new, non-obvious, and useful. Prompt consideration and allowance of the application are respectfully requested.

Respectfully submitted,

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